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**D212-664-101TRN**  
**Job Sheet 199240**



**Part No:** D212-664-101TRN

**Job Qty:** 1 pcs

**Part Name:** Crosstube Turning Detail



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 8/15/19

**Job Tracking No:**

**Due Date:** 9/17/19

**Created By:** Marie Lajeunesse

**Type:** Stock

**Description:**

**Note:** DWG REV E IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 removed Polish EC verified by: DD

**Ship Via:**

### Bill of Materials

### Job Routing

| Op No | Operation            | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Lead Time | Sign-off         |
|-------|----------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|-----------|------------------|
|       |                      |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |           |                  |
| 100   | Mori Seiki TL-40 - 1 | 1 pcs | 9/17/19    | 9/17/19  | 1.00      | 2.38    | Mori Seiki TL-40 - 1  |           |           | DAS 662019/09/05 |
| 110   | QC 2                 | 1 pcs | 9/17/19    | 9/17/19  | 0.00      | 0.00    | QC 2 - 1              |           | 9-89      |                  |
|       |                      |       |            |          |           |         | QC 2 - 12             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 14             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 17             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 19             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 2              |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 20             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 22             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 23             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 25             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 32             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 33             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 35             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 39             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 4              |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 40             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 44             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 45             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 48             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 49             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 50             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 51             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 52             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 57             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 62             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 63             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 8              |           |           | DAS 662019/09/05 |
|       |                      |       |            |          |           |         | QC 2 - 66             |           |           |                  |
|       |                      |       |            |          |           |         | QC 2 - 64             |           |           | 9-89             |

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|     |                            |       |         |           |                            |                   |
|-----|----------------------------|-------|---------|-----------|----------------------------|-------------------|
|     |                            |       |         |           | QC 2 - 65                  |                   |
|     |                            |       |         |           | QC 2 - 5                   |                   |
|     |                            |       |         |           | QC 2 - 71                  |                   |
|     |                            |       |         |           | QC 2 - 73                  |                   |
|     |                            |       |         |           | QC 2 - 69                  |                   |
| 120 | Mori Seiki TL-40 - 1 - B4B | 1 pcs | 9/17/19 | 1.00 2.38 | Mori Seiki TL-40 - 1 - B4B | DAS<br>66<br>9-89 |
| 130 | QC 2                       | 1 pcs | 9/17/19 | 0.00 0.00 | QC 2 - 1                   | 662019/09/11      |
|     |                            |       |         |           | QC 2 - 12                  |                   |
|     |                            |       |         |           | QC 2 - 14                  |                   |
|     |                            |       |         |           | QC 2 - 17                  |                   |
|     |                            |       |         |           | QC 2 - 19                  |                   |
|     |                            |       |         |           | QC 2 - 2                   |                   |
|     |                            |       |         |           | QC 2 - 20                  |                   |
|     |                            |       |         |           | QC 2 - 22                  |                   |
|     |                            |       |         |           | QC 2 - 23                  |                   |
|     |                            |       |         |           | QC 2 - 25                  |                   |
|     |                            |       |         |           | QC 2 - 32                  |                   |
|     |                            |       |         |           | QC 2 - 33                  |                   |
|     |                            |       |         |           | QC 2 - 35                  |                   |
|     |                            |       |         |           | QC 2 - 39                  |                   |
|     |                            |       |         |           | QC 2 - 4                   |                   |
|     |                            |       |         |           | QC 2 - 40                  |                   |
|     |                            |       |         |           | QC 2 - 44                  |                   |
|     |                            |       |         |           | QC 2 - 45                  |                   |
|     |                            |       |         |           | QC 2 - 48                  |                   |
|     |                            |       |         |           | QC 2 - 49                  |                   |
|     |                            |       |         |           | QC 2 - 50                  |                   |
|     |                            |       |         |           | QC 2 - 51                  |                   |
|     |                            |       |         |           | QC 2 - 52                  |                   |
|     |                            |       |         |           | QC 2 - 57                  |                   |
|     |                            |       |         |           | QC 2 - 62                  |                   |
|     |                            |       |         |           | QC 2 - 63                  |                   |
|     |                            |       |         |           | QC 2 - 8                   |                   |
|     |                            |       |         |           | QC 2 - 66                  | DAS<br>66<br>9-89 |
|     |                            |       |         |           | QC 2 - 64                  |                   |
|     |                            |       |         |           | QC 2 - 65                  |                   |
|     |                            |       |         |           | QC 2 - 5                   |                   |
|     |                            |       |         |           | QC 2 - 71                  |                   |
|     |                            |       |         |           | QC 2 - 73                  |                   |
|     |                            |       |         |           | QC 2 - 69                  |                   |
| 140 | QC 8                       | 1 pcs | 9/17/19 | 0.00 0.00 | QC 8 - 12                  |                   |
|     |                            |       |         |           | QC 8 - 14                  |                   |
|     |                            |       |         |           | QC 8 - 17                  |                   |
|     |                            |       |         |           | QC 8 - 20                  |                   |
|     |                            |       |         |           | QC 8 - 25                  |                   |
|     |                            |       |         |           | QC 8 - 3                   |                   |
|     |                            |       |         |           | QC 8 - 32                  |                   |
|     |                            |       |         |           | QC 8 - 33                  |                   |
|     |                            |       |         |           | QC 8 - 35                  |                   |
|     |                            |       |         |           | QC 8 - 39                  |                   |
|     |                            |       |         |           | QC 8 - 4                   |                   |
|     |                            |       |         |           | QC 8 - 44                  |                   |
|     |                            |       |         |           | QC 8 - 45                  |                   |
|     |                            |       |         |           | QC 8 - 49                  |                   |
|     |                            |       |         |           | QC 8 - 58                  |                   |
|     |                            |       |         |           | QC 8 - 8                   |                   |
|     |                            |       |         |           | QC 8 - 9                   |                   |
|     |                            |       |         |           | QC 8 - 68                  |                   |
|     |                            |       |         |           | QC 8 - 67                  | DAS<br>76<br>9-89 |

|                                 |       |         |           |  |                        |               |
|---------------------------------|-------|---------|-----------|--|------------------------|---------------|
|                                 |       |         |           |  | QC 8 - 1 (A)           |               |
|                                 |       |         |           |  | QC 8 - 47              |               |
|                                 |       |         |           |  | QC 8 - 40              |               |
|                                 |       |         |           |  | QC 8 - 52              |               |
|                                 |       |         |           |  | QC 8 - 23              |               |
|                                 |       |         |           |  | QC 8 - 57              |               |
|                                 |       |         |           |  | QC 8 - 1 (A)           |               |
| 145 Crosstubes - 2 - B4B        | 1 pcs | 9/17/19 | 0.00 0.68 |  | Crosstubes - 1 - B4B   |               |
|                                 |       |         |           |  | Crosstubes - 2 - B4B   | DB 09/30/19   |
|                                 |       |         |           |  | Crosstubes - 3 - B4B   |               |
|                                 |       |         |           |  | Crosstubes - 4 - B4B   |               |
| 150 Crosstubes - 2 - B4B        | 1 pcs | 9/17/19 | 0.00 1.00 |  | Crosstubes - 1 - B4B   | BEB 19-10-07. |
|                                 |       |         |           |  | Crosstubes - 2 - B4B   |               |
|                                 |       |         |           |  | Crosstubes - 3 - B4B   |               |
|                                 |       |         |           |  | Crosstubes - 4 - B4B   |               |
| Hand Finish<br>1-1-B4B          |       |         | 0.00 0.00 |  | QC 7 - 10              |               |
|                                 |       |         |           |  | QC 7 - 13              |               |
|                                 |       |         |           |  | QC 7 - 14              |               |
|                                 |       |         |           |  | QC 7 - 15              |               |
|                                 |       |         |           |  | QC 7 - 17              |               |
|                                 |       |         |           |  | QC 7 - 18              |               |
|                                 |       |         |           |  | QC 7 - 19              |               |
|                                 |       |         |           |  | QC 7 - 2               |               |
|                                 |       |         |           |  | QC 7 - 28              |               |
|                                 |       |         |           |  | QC 7 - 3               |               |
|                                 |       |         |           |  | QC 7 - 30              |               |
|                                 |       |         |           |  | QC 7 - 34              |               |
|                                 |       |         |           |  | QC 7 - 36              |               |
|                                 |       |         |           |  | QC 7 - 37              |               |
|                                 |       |         |           |  | QC 7 - 41              |               |
|                                 |       |         |           |  | QC 7 - 47              |               |
|                                 |       |         |           |  | QC 7 - 48              |               |
|                                 |       |         |           |  | QC 7 - 51              |               |
|                                 |       |         |           |  | QC 7 - 58              |               |
|                                 |       |         |           |  | QC 7 - 59              |               |
|                                 |       |         |           |  | QC 7 - 60              |               |
|                                 |       |         |           |  | QC 7 - 9               |               |
|                                 |       |         |           |  | QC 7 - 68              |               |
|                                 |       |         |           |  | QC 7 - 50              | DAS           |
|                                 |       |         |           |  | QC 7 - 67              | 76            |
|                                 |       |         |           |  | QC 7 - 40              | 9-89          |
|                                 |       |         |           |  | QC 7 - 24              | 2019-11-1     |
|                                 |       |         |           |  | QC 7 - 43              |               |
|                                 |       |         |           |  | QC 7 - 61              |               |
|                                 |       |         |           |  | QC 7 - 81              |               |
| 170 Packaging 3-1 - Stock - B4B | 1 pcs | 9/17/19 | 0.00 0.00 |  | Packaging 3 - 1 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 2 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 3 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 4 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 5 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 6 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 7 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 8 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 9 - B4B  |               |
|                                 |       |         |           |  | Packaging 3 - 10 - B4B |               |
|                                 |       |         |           |  | Packaging 3 - 11 - B4B |               |
|                                 |       |         |           |  | Packaging 3 - 12 - B4B |               |
|                                 |       |         |           |  | Packaging 3 - 13 - B4B |               |
|                                 |       |         |           |  | Packaging 3 - 14 - B4B |               |
|                                 |       |         |           |  | Packaging 3 - 15 - B4B |               |

|     |            |       |         |           |                        |              |
|-----|------------|-------|---------|-----------|------------------------|--------------|
|     |            |       |         |           | Packaging 3 - 16 - B4B |              |
|     |            |       |         |           | Packaging 3 - 17 - B4B |              |
|     |            |       |         |           | Packaging 3 - 18 - B4B |              |
|     |            |       |         |           | Packaging 3 - 19 - B4B |              |
|     |            |       |         |           | Packaging 3 - 20 - B4B |              |
|     |            |       |         |           | Packaging 3 - 21 - B4B |              |
|     |            |       |         |           | Packaging 3 - 22 - B4B |              |
|     |            |       |         |           | Packaging 3 - 23 - B4B |              |
|     |            |       |         |           | Packaging 3 - 24 - B4B | DB 2019-11-1 |
|     |            |       |         |           | Packaging 3 - 25 - B4B |              |
|     |            |       |         |           | Packaging 3 - 26 - B4B |              |
|     |            |       |         |           | Packaging 3 - 27 - B4B |              |
|     |            |       |         |           | Packaging 3 - 28 - B4B |              |
|     |            |       |         |           | Packaging 3 - 29 - B4B |              |
|     |            |       |         |           | Packaging 3 - 30 - B4B |              |
|     |            |       |         |           | Packaging 3 - 31 - B4B |              |
|     |            |       |         |           | Packaging 3 - 32 - B4B |              |
|     |            |       |         |           | Packaging 3 - 33 - B4B |              |
|     |            |       |         |           | Packaging 3 - 34 - B4B |              |
|     |            |       |         |           | Packaging 3 - 35 - B4B |              |
|     |            |       |         |           | Packaging 3 - 36 - B4B |              |
| 180 | QC 21 - SA | 1 pcs | 9/17/19 | 0.00 0.00 | QC 21 - SA - 21        | DB 21        |
|     |            |       |         |           | QC 21 - SA - 70        | 3-39         |
|     |            |       |         |           | QC 21 - SA - 53        |              |

Part Op 100 - (Mori Seiki CNC Lathe Large) 1- Fill tube with sand & install plugs 212-141 on both ends as per Folio FA113 3- Turn  
 Descriptions: first taper section on both side as per folio FA113  
 110 - (QC2- Inspect parts off machine FAI/FAIB) (QC2- Inspect parts off machine FAI/FAIB)  
 120 - (Mori Seiki CNC Lathe Large) 1- Turn second taper on both side 4- Scribe part # and batch # using vibrating stylus  
 on the cuff as per Dwg D212-664-141  
 130 - (QC2- Inspect parts off machine FAI/FAIB)  
 140 - (QC8- Inspect parts - second check)  
 145 - (Crosstubes) GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.  
 150 - (Crosstubes) 1- handfinish X-TUBE INSIDE AND OUT  
 160 - (QC7-Inspect Chemical Conversion Coat)  
 170 - (Identify as per dwg & Stock Location: LOCATION : LG014  
 180 - (QC21- Final Inspection - Work Order Release)

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| Job BOM     |                    |              |                          |           |
|-------------|--------------------|--------------|--------------------------|-----------|
| Part / Item | Component Name     | Quantity     | Operation                | Container |
| D6005-128   | Crosstube Material | 1 pcs (1 ea) | 100-Mori Seiki TL-40 - 1 | F139415   |

| Job Allocations          |                |          |           |           |
|--------------------------|----------------|----------|-----------|-----------|
| Operation                | Component Part | Required | Inventory | Allocated |
| 100-Mori Seiki TL-40 - 1 | D6005-128      | 1        | 17        | 0         |

| Part Specifications                |  |
|------------------------------------|--|
| Specifications could not be found. |  |



Container No: S211872



Part: D212-664-101TRN

Job No: 199240

Serial No/Batch: S211872

Revision: E

Inspector:

Exp Date:

Instructions:

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Date: 09/05/19

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|                                                               |                     |              |
|---------------------------------------------------------------|---------------------|--------------|
| <b>DART AEROSPACE LTD</b>                                     | <b>Work Order:</b>  | 199240       |
| <b>Description:</b> Crosstube Assembly (205/212/412 High Fwd) | <b>Part Number:</b> | D212-664-141 |
| <b>Inspection Dwg:</b> D212-664-141 Rev: E                    |                     | Page 1 of 2  |

### FIRST ARTICLE INSPECTION CHECKLIST

|        | Inspection Sheet<br>Drawing Dimension | Tolerance     | Actual<br>Dimension | Accept | Reject | Method of<br>Inspection | Comments |
|--------|---------------------------------------|---------------|---------------------|--------|--------|-------------------------|----------|
| SIDE A | 0.200                                 | +/-0.010      | 207                 | ✓      |        | CNC-08                  |          |
|        | R0.063                                | +/-0.010      | 0.063               | ✓      |        | LG                      |          |
|        | 2.740                                 | +0.005/-0.000 | 2.742               | ✓      |        | CNC-04                  |          |
|        | 5.097                                 | +/-0.030      | 5.105               | ✓      |        | CNC-08                  |          |
|        | 2.304                                 | +0.005/-0.000 | 2.309               | ✓      |        | CNC-04                  |          |
|        | 2.340                                 | +0.005/-0.000 | 2.345               | ✓      |        |                         |          |
|        | 2.398                                 | +0.005/-0.000 | 2.403               | ✓      |        |                         |          |
|        | 2.448                                 | +0.005/-0.000 | 2.453               | ✓      |        |                         |          |
|        | 2.498                                 | +0.005/-0.000 | 2.503               | ✓      |        |                         |          |
|        | 2.549                                 | +0.005/-0.000 | 2.554               | ✓      |        |                         |          |
|        | 2.599                                 | +0.005/-0.000 | 2.604               | ✓      |        |                         |          |
|        | 2.671                                 | +0.005/-0.000 | 2.676               | ✓      |        |                         |          |
|        | 2.701                                 | +0.005/-0.000 | 2.706               | ✓      |        |                         |          |
| SIDE B | 0.200                                 | +/-0.010      | 205                 | ✓      |        | CNC-08                  |          |
|        | R0.063                                | +/-0.010      | 0.063               | ✓      |        | LG                      |          |
|        | 2.740                                 | +0.005/-0.000 | 2.742               | ✓      |        | CNC-04                  |          |
|        | 5.097                                 | +/-0.030      | 5.098               | ✓      |        | CNC-08                  |          |
|        | 2.304                                 | +0.005/-0.000 | 2.309               | ✓      |        | CNC-04                  |          |
|        | 2.340                                 | +0.005/-0.000 | 2.345               | ✓      |        |                         |          |
|        | 2.398                                 | +0.005/-0.000 | 2.403               | ✓      |        |                         |          |
|        | 2.448                                 | +0.005/-0.000 | 2.453               | ✓      |        |                         |          |
|        | 2.498                                 | +0.005/-0.000 | 2.503               | ✓      |        |                         |          |
|        | 2.549                                 | +0.005/-0.000 | 2.554               | ✓      |        |                         |          |
|        | 2.599                                 | +0.005/-0.000 | 2.604               | ✓      |        |                         |          |
|        | 2.671                                 | +0.005/-0.000 | 2.676               | ✓      |        |                         |          |
|        | 2.701                                 | +0.005/-0.000 | 2.706               | ✓      |        |                         |          |
|        | 126.514                               | +/-0.020      | 126.500             | ✓      |        | Tape                    |          |

| Item | Qty<br>-141 | Qty<br>-141B | Qty<br>-141F | Part Number     | Description                                                |
|------|-------------|--------------|--------------|-----------------|------------------------------------------------------------|
| 1    | X           |              |              | D212-884-141    | CROSSTUBE ASSEMBLY (205/212/12/412 HIGH FWD)               |
| 2    |             | X            |              | D212-884-141B   | CROSSTUBE ASSEMBLY (214 HIGH FWD)                          |
| 3    |             |              | X            | D212-884-141F   | CROSSTUBE ASSEMBLY (205/212/12/412 HIGH FWD)<br>(ANODIZED) |
| 4    | 1           | 1            | 1            | D6006-128       | CROSSTUBE                                                  |
| 5    | 2           |              | 2            | D2883-1         | SUPPORT                                                    |
| 6    | 4           | 4            | 4            | D3585-083-450   | RUBBER CUSHION                                             |
| 7    |             | 2            |              | D6017-1         | SUPPORT                                                    |
| 8    | 4           | 4            | 4            | MS21920-25      | CLAMP (OR MS21920-28)                                      |
| 9    | AR          | AR           | AR           | PROSEAL 800 B-2 | SEALANT, AMS-S-8802 CLASS B-2                              |

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-128  
FINISHED LENGTH = 126.514±0.020
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
c) MASK INSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)  
d) PAINT OUTSIDE PER DART QSI 005 4.2  
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT  
f) ANODIZE PER MIL-A-8826, TYPE II, CLASS 1.  
g) ALODINE (DO NOT ETCH) PER QSI 005 4.1.2  
h) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
i) MASK INSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)  
j) PAINT OUTSIDE PER DART QSI 005 4.2  
k) REMOVE MASKING AND APPLY MATTE CLEAR COAT  
\*NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO CONTAMINATE OR DAMAGE FINISHED SURFACES.  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.  
UNITS: INCHES UNLESS OTHERWISE NOTED.  
BREAK SHARP EDGES: 0.005 TO 0.010 MAX.  
IDENTIFICATION: SCRIBE DART PART NUMBER "D212-884-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS  
WEIGHT: D212-884-141/-141B/-141F = 33.8 lbs  
PART IS SYMMETRIC ABOUT CENTERLINE.  
EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.  
MACHINING  
10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.  
BENDING  
11) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R45.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.  
12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.  
ASSEMBLY  
13) TO INSTALL D2883-1 / D6017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 800 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.  
14) INSTALL MS21920-25 CLAMPS (OR -28) WITH D3585-083-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.  
15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 800 SEALANT HAS CURED FOR 72 HOURS.

STOCK COPY  
UNCONTROLLED COPY  
SUBMIT TO ADJUTANT  
NOTICE  
ORDER  
199240MCD  
1908-15

RELEASED  
2014-05-26  
JMD

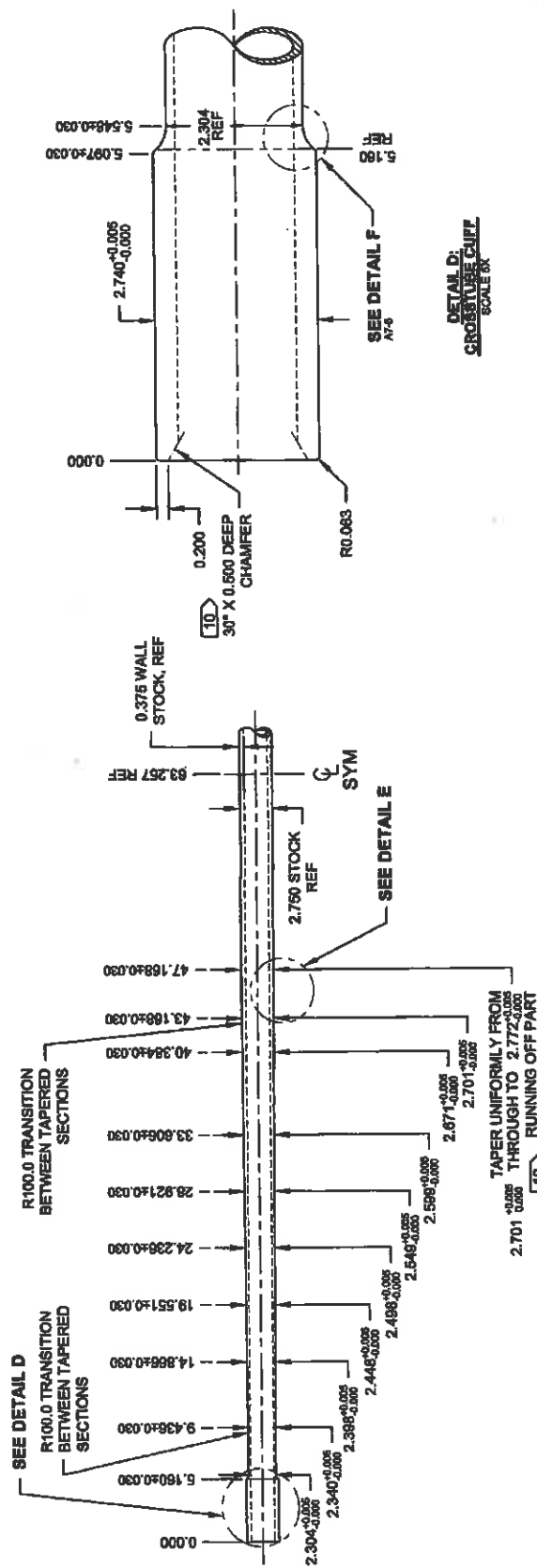
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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------|
| E                                                                                                                                                                                                                                      | ADD -141F. D6017-1 WAS D2883-1 (-141B). PROSEAL WAS MAGNOROND, NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 7.2% CRUSH. NOTE 16: ADD 72HR CURE AND RETORQUE FOR PROSEAL. ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (87-2, 87-3). BEND HEIGHT TOL. NOW 0.28 WAS 0.13 (C1-3). INCORP. DED D-12-25-3 | CP | 14.04.01 |
| D                                                                                                                                                                                                                                      | REFORMAT/REVIEW GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C8-3, C8-3 & B9-3); RELOCATED FLAG #6 PER PAR 98-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4           | RF | 09.08.30 |
| C                                                                                                                                                                                                                                      | REMOVE -881 ABRASION STRIP; ADD MAGNOROND 8388. CUSHION, REVERSE CLAMPS                                                                                                                                                                                                                                  | PH | 07.03.08 |
| B                                                                                                                                                                                                                                      | ADD HOLES FOR COMPATIBILITY WITH BHT/A                                                                                                                                                                                                                                                                   | PH | 06.02.04 |
| A                                                                                                                                                                                                                                      | NEW ISSUE                                                                                                                                                                                                                                                                                                | CP | 00.12.12 |
| REV.                                                                                                                                                                                                                                   | DESCRIPTION                                                                                                                                                                                                                                                                                              | BY | DATE     |
| DESIGN                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                          |    |          |
| DRAWN                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                          |    |          |
| CHECKED                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                          |    |          |
| MFG. APPR.                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                          |    |          |
| APPROVED                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                          |    |          |
| DE APPR.                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                          |    |          |
| DATE                                                                                                                                                                                                                                   | 14.04.01                                                                                                                                                                                                                                                                                                 |    |          |
| DART AEROSPACE LTD<br>HARRISBURG, ONTARIO, CANADA                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                          |    |          |
| DRAWING NO. D212-884-141                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                          |    |          |
| SHEET 1 OF 5                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                          |    |          |
| TITLE XTUBE ASSY (205/212/12/412 HI FWD)                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                          |    |          |
| SCALE NTS                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                          |    |          |
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26

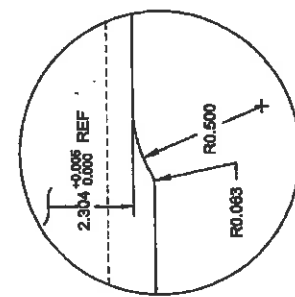
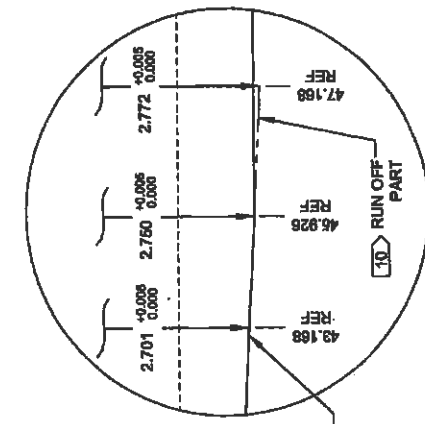


|                                                                                                                                                                                                                                                                                           |                                                                                     |                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------|
| DESIGN                                                                                                                                                                                                                                                                                    |  | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA |
| DRAWN                                                                                                                                                                                                                                                                                     |  |                                                          |
| CHECKED                                                                                                                                                                                                                                                                                   |  | REV. E                                                   |
| MFG. APPR.                                                                                                                                                                                                                                                                                |  | SHEET 3 OF 5                                             |
| APPROVED                                                                                                                                                                                                                                                                                  |  | TITLE                                                    |
| DE APPR.                                                                                                                                                                                                                                                                                  |  | SCALE                                                    |
| DATE                                                                                                                                                                                                                                                                                      | 14.04.01                                                                            | XTBUE ASSY (206/212/412 HI FWD)                          |
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1 2 3 4 5 6 7 8



**D212-664-141TRN**  
**TURNING DETAIL**



**DETAIL D:**  
**CUFF TRANSITION**  
SCALE 10X

**DETAIL E:**  
**TAPER RUN-OFF**  
NOT TO SCALE

**RELEASED**  
N 2014-05-26

|             |    |                                       |              |
|-------------|----|---------------------------------------|--------------|
| DESIGN      | 0  | <b>DART AEROSPACE LTD</b>             | REV. E       |
| DRAWN       | 0  | HAVERSBURY, ONTARIO, CANADA           |              |
| CHECKED     | XX | DRAWING NO. D212-664-141              | SHEET 6 OF 6 |
| INFO. APPR. |    | TITLE XTUBE ASSY (2051212/412 HI PWD) | SCALE NTS    |
| DE APPR.    |    | DATE 14.04.01                         |              |

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Entered: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only

NCR No. \_\_\_\_\_

Job: \_\_\_\_\_

Part No. \_\_\_\_\_

### DISPOSITION

Rework ☐  
Scrap ☐  
Use-as-is ☐

### DEPARTMENT/PROCESS

Skid-tube ☐  
Machining ☐  
Large Fab ☐

Cross tube ☐  
Small Fab ☐  
Finishing ☐

Eng. (Non-AW) ☐  
Prod. Eng. Coord. ☐  
Rec/Store/Packaging ☐  
Engineering ☐  
Water Jet ☐  
Supplier ☐  
Quality ☐

Date: \_\_\_\_\_

Sequence #: \_\_\_\_\_

QTY Affected: \_\_\_\_\_

MRB (QSI042)

### Description Work Order Deviation

### Disposition

Completed By \_\_\_\_\_

Lead hand / Supervisor \_\_\_\_\_

QC / QA Coordinator \_\_\_\_\_

### Root Cause

Operator ☐  
Manufacturing Process ☐  
Equip/Tooling ☐  
Handling/Preservation ☐  
Material ☐  
Product Improvement ☐  
Process Improvement ☐  
Human Factors ☐

Pressure/Forced ☐  
Bending ☐  
Crushing ☐  
Cracks ☐  
Crimp/Kink/Ripple/Wave/Twist ☐  
Marks/Chatter ☐  
Mislabeled ☐

Other/Details: \_\_\_\_\_

### FAULT CATEGORY

Contamination ☐  
Misaligned/off center ☐  
BOM/Route ☐  
Broken/Damage/Defect ☐  
Incomplete/Unclear Instructions ☐  
Drill Holes ☐  
Fit/Function ☐

Power Loss/Surge ☐  
Folio/Program ☐  
Grain Direction ☐  
Weld ☐  
Wrong Stock Pulled ☐  
Out of Sequence ☐  
Off-set/Set-up ☐  
Positioned Wrong ☐  
Outside Tolerance ☐  
Drawing ☐  
Finish ☐  
Part Lost/Missing ☐  
Misread ☐